

IN THE CLAIMS

The claims are as follows:

1. (Currently Amended) A golf ball having one or more layers comprising a base rubber material, wherein at least one layer of the golf ball comprises greater than about 60 parts of one or more pre-vulcanized or pre-crosslinked material per 100 parts of a base rubber material; wherein the pre-vulcanized or pre-crosslinked material is a finely ground powder having a particle size of 5 μm to 100 μm subjected to high pressure, high temperature sintering to form a recrosslinked material.
2. (Original) The golf ball of claim 1, wherein the at least one layer of the golf ball comprises from about 60 parts to about 200 parts of one or more pre-vulcanized or pre-crosslinked material per 100 parts of base rubber.
3. (Original) The golf ball of claim 2, wherein the golf ball comprises from about 70 parts to about 150 parts of one or more pre-vulcanized or pre-crosslinked material per 100 parts of base rubber.
4. (Previously Presented) The golf ball of claim 1, wherein the at least one layer is a core layer.
5. (Currently Amended) The golf ball of claim 2, wherein the pre-vulcanized or pre-crosslinked material is a thermoset material selected from the group consisting of a thermoset natural or synthetic rubber, thermoset polyurethane, thermoset polyurea, thermoset polyolefin, thermoset phenol-formaldehyde resin, thermoset amino resin, thermoset furan resin, thermoset unsaturated polyester resin, thermoset vinyl ester resin, thermoset cyanate esters, thermoset acrylic resins, thermoset epoxy resin, ~~thermoset silicones~~, thermoset polyimides, styrene butadiene rubber₁[[;]] polybutadiene₁, ~~isoprene~~, polyisoprene₁[[;]] trans-isoprene rubber₁[[;]] ethylene propylenediene rubber₁[[;]] fluoroelastomer₁[[;]] silicone rubber₁[[;]] epoxy rubber₁[[;]] nadimide-, cyanate- or maleimide-terminated thermosetting polyimides₁[[;]] and mixtures thereof.

6. (Original) The golf ball of claim 1, wherein the pre-vulcanized or pre-crosslinked material further comprises a cis-to-trans catalyst and free radical source; a crosslinking agent; a vulcanization accelerator; an anti-reversion agent, or a mixture thereof.
7. (Original) The golf ball of claim 6, wherein the anti-reversion agent is 1,3-bis-(citraconimidomethyl)benzene, hexamethylene-1,6-bis(thiosulfate), or a mixture thereof.
8. (Canceled)
9. (Original) The golf ball of claim 1, wherein the golf ball has a coefficient of restitution of at least about 0.7, and wherein the golf ball has an initial velocity of about 245 ft/s or greater.
10. (Original) The golf ball of claim 1, wherein the golf ball has a coefficient of restitution of at least about 0.78.
11. (Original) The golf ball of claim 1, wherein the golf ball has a ball spin rate of about 1200 rpm to about 4000 rpm when the golf ball is hit with a golf driver.
12. (Original) The golf ball of claim 1, wherein the golf ball has a ball spin rate of about 6500 rpm to about 10,000 rpm when the golf ball is hit with an 8-iron.
13. (Currently Amended) A golf ball having one or more layers consisting essentially of a pre-vulcanized or pre-crosslinked material present in an amount of greater than about 60 parts by weight per 100 parts of a base rubber, wherein the pre-vulcanized or pre-crosslinked material in the at least one layer is re-crosslinked by high pressure, high temperature sintering, and wherein the pre-vulcanized or pre-crosslinked material is a thermoset material selected from the group consisting of a thermoset natural rubber, thermoset polyurethane, thermoset polyurea, thermoset polyolefin, thermoset phenol-formaldehyde resin, thermoset amino resin, thermoset furan resin, thermoset unsaturated polyester resin, thermoset vinyl ester resin, thermoset cyanate esters, thermoset acrylic resins, thermoset epoxy resin, thermoset polyimides, styrene butadiene rubber, polybutadiene, polyisoprene, trans-polyisoprene, ethylene propylenediene rubber, fluoroelastomer, epoxy

rubber, nadimide-, cyanate- or maleimide-terminated thermosetting polyimides, and mixtures thereof.

14. (Previously Presented) The golf ball of claim 13, wherein the one or more layer is a golf ball cover layer.

15. (Canceled)

16. (Currently Amended) A golf ball having one or more layers comprising greater than about 60 parts by weight of a pre-vulcanized or pre-crosslinked material per 100 parts of a base rubber,[[;]] [[and]] wherein the pre-vulcanized or pre-cross-linked material is subjected to high pressure, high temperature sintering to form a recrosslinked material, and wherein the pre-vulcanized or pre-crosslinked material is a thermoset material selected from the group consisting of a thermoset natural rubber, thermoset polyurethane, thermoset polyurea, thermoset polyolefin, thermoset phenol-formaldehyde resin, thermoset amino resin, thermoset furan resin, thermoset unsaturated polyester resin, thermoset vinyl ester resin, thermoset cyanate esters, thermoset acrylic resins, thermoset epoxy resin, thermoset polyimides, styrene butadiene rubber, polybutadiene, polyisoprene, trans-polyisoprene, ethylene propylenediene rubber, fluoroelastomer, epoxy rubber, nadimide-, cyanate- or maleimide-terminated thermosetting polyimides, and mixtures thereof.

17. (Canceled)

18. (Original) The golf ball of claim 16, wherein said golf ball is a 1-piece ball.

19. (Original) The golf ball of claim 16, wherein said golf ball has an Atti compression of at least about 40, a coefficient of restitution of at least about 0.7, an initial velocity of about 245 ft/s or greater, and a spin rate of about 1200 rpm to about 4000 rpm when the golf ball is hit with a driver.

20. (Previously Presented) The golf ball of claim 16, wherein the recrosslinked material has a relative modulus of 1.

21. (Previously Presented) The golf ball of claim 16, wherein the recrosslinked material has at least about 75 percent of the properties of the pre-vulcanized or pre-crosslinked material.

Please add the following new claims:

22. (New) The golf ball of claim 15, wherein the pre-vulcanized or pre-crosslinked material is a thermoset material selected from the group consisting of a thermoset natural rubber, styrene butadiene rubber, polybutadiene, polyisoprene, trans-isoprene rubber, ethylene propylenediene rubber, fluoroelastomer, epoxy rubber, and mixtures thereof.

23. (New) The golf ball of claim 15, wherein the pre-vulcanized or pre-crosslinked material is a thermoset material selected from the group consisting of a thermoset polyurethane, thermoset polyurea, and mixtures thereof.

24. (New) The golf ball of claim 15, wherein the pre-vulcanized or pre-crosslinked material is a thermoset material selected from the group consisting of a thermoset polyolefin, thermoset phenol-formaldehyde resin, thermoset amino resin, thermoset furan resin, thermoset unsaturated polyester resin, thermoset vinyl ester resin, thermoset cyanate esters, thermoset acrylic resins, thermoset epoxy resin, thermoset polyimides, nadimide-, cyanate- or maleimide-terminated thermosetting polyimides, and mixtures thereof.